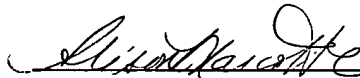


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REMARKS

The application as presented is believed to be in allowable condition, and Applicants respectfully request a favorable examination. To answer any questions, or otherwise further the prosecution of this application, the Examiner may contact the undersigned attorney at the number provided below.

Respectfully submitted,



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**ATTACHMENT A
AMENDED CLAIMS WITH EDITING MARKS**

1. (Amended) A dispensing system for accurately dispensing material onto a substrate, the system comprising:

a dispensing element having a metering device that controls a quantity of material dispensed from the dispensing element;

a positioning system coupled to the dispensing element to move the dispensing element over the substrate in accordance with a dispensing [pattern] velocity profile;

a calibration device having a dish that receives material from the dispensing element during a calibration routine of the dispensing system; and

a controller, coupled to the positioning system, the dispensing element and the calibration device to control operation of the dispensing system, wherein the controller is constructed and arranged to control the positioning system and the dispensing element such that the dispensing element is moved and controlled according to a calibration [pattern] velocity profile to dispense material into the dish during a calibration routine, and wherein the calibration [pattern] velocity profile is representative of the dispensing [pattern] velocity profile.

9. (Amended) The system of claim 8, wherein the controller is constructed and arranged to apply a scale factor to the dispensing [pattern] velocity profile to obtain the calibration [pattern] velocity profile.

13. (Amended) The system of claim 1, wherein the calibration [pattern] velocity profile is the same as the dispensing [pattern] velocity profile.

22. (Amended) A system for dispensing a material onto a substrate, the system comprising:

a dispensing element having a metering device that controls a quantity of material dispensed from the dispensing element;

a positioning system coupled to the dispensing element to move the dispensing element over the substrate in accordance with a dispensing [pattern] velocity profile;

a calibration device having a dish that receives material from the dispensing element during a calibration routine of the dispensing system;

means for moving the dispensing element according to a calibration [pattern] velocity profile that is representative of the dispensing [pattern] velocity profile to dispense material into the dish during the calibration routine; and

means for determining the quantity of material dispensed during the calibration routine.

ATTACHMENT B
CLAIMS PENDING AS OF FEBRUARY 14, 2003

1. (Amended) A dispensing system for accurately dispensing material onto a substrate, the system comprising:
- a dispensing element having a metering device that controls a quantity of material dispensed from the dispensing element;
 - a positioning system coupled to the dispensing element to move the dispensing element over the substrate in accordance with a dispensing velocity profile;
 - a calibration device having a dish that receives material from the dispensing element during a calibration routine of the dispensing system; and
 - a controller, coupled to the positioning system, the dispensing element and the calibration device to control operation of the dispensing system, wherein the controller is constructed and arranged to control the positioning system and the dispensing element such that the dispensing element is moved and controlled according to a calibration velocity profile to dispense material into the dish during a calibration routine, and wherein the calibration velocity profile is representative of the dispensing velocity profile.
2. The system of claim 1, wherein the dish is removably connected to the calibration device.
3. The system of claim 1 wherein the dish further includes a tab for conveying the dish to or from the calibration device.
4. The system of claim 1, wherein the dish further includes a protuberance for operatively removing an amount of material from the dispensing element.
5. The system of claim 1, wherein the dish is disposable.
6. The system of claim 1, wherein the dish will withstand a temperature that will allow an amount of dispensed material collected in the dish to cure.

7. The system of claim 1, wherein the dish is fabricated from a generally conductive material.

8. The system of claim 1, wherein the calibration device is constructed and arranged to determine a quantity of material dispensed during a calibration routine, and wherein the quantity is compared with a target quantity of material to determine an error value.

9. (Amended) The system of claim 8, wherein the controller is constructed and arranged to apply a scale factor to the dispensing velocity profile to obtain the calibration velocity profile.

10. The system of claim 9, wherein the scale factor is applied to the speed of movement of the dispensing system during a calibration routine such that the material dispensed during a calibration routine is substantially the same as that dispensed onto a substrate.

11. The system of claim 10, wherein the system is constructed and arranged to adjust a rate of delivery of the metering device when the error value is greater than a predefined value.

12. The system of claim 10, wherein the system is constructed to adjust a speed of movement of the pump when the error value is greater than a predefined value.

13. (Amended) The system of claim 1, wherein the calibration velocity profile is the same as the dispensing velocity profile.

22. (Amended) A system for dispensing a material onto a substrate, the system comprising:

a dispensing element having a metering device that controls a quantity of material dispensed from the dispensing element;

a positioning system coupled to the dispensing element to move the dispensing element over the substrate in accordance with a dispensing velocity profile;

a calibration device having a dish that receives material from the dispensing element during a calibration routine of the dispensing system;

means for moving the dispensing element according to a calibration velocity profile that is representative of the dispensing velocity profile to dispense material into the dish during the calibration routine; and

means for determining the quantity of material dispensed during the calibration routine.

23. The system of claim 22, further comprising:

means for determining a difference between the quantity of material dispensed with a target quantity; and

means for adjusting characteristics of the system to reduce the difference.

24. The system of claim 23, further comprising:

means for applying a scaling factor to the system to reduce the distance traveled by the dispensing element during the calibration routine.

25. The system of claim 24, wherein the means for determining a quantity includes a weight scale for measuring the weight of material dispensed.

30.

26. (New) A calibration apparatus for calibrating the amount of material dispensed from a pump, the apparatus comprising:

a positioning system coupled to the pump to move the pump in accordance with a predetermined dispensing velocity profile;

a pre-dispense assembly having a dish that receives the material dispensed from the pump during a calibration routine;

a controller to control the positioning system and the pump such that the pump is moved according to a calibration velocity profile, wherein the calibration velocity profile is representative of the dispensing velocity profile of the pump; and

a weighing device for determining the weight of the material released from the pump during the calibration routine.

³¹
~~27.~~ (New) The apparatus of claim ~~26~~³⁰, wherein the dish is removably connected to the pre-dispense assembly.

³²
~~28.~~ (New) The apparatus of claim ~~26~~³⁰, wherein the dish further includes a tab for conveying the dish to or from the pre-dispense assembly.

³³
~~29.~~ (New) The apparatus of claim ~~26~~³⁰, wherein the weight of the material dispensed during the calibration routine is compared with a target weight of material to determine an error value.

³⁴
~~30.~~ (New) The apparatus of claim ~~29~~³³, wherein the apparatus is constructed and arranged to adjust a speed of movement of the pump when the error value is greater than a predefined value.

³⁵
~~31.~~ (New) The apparatus of claim ~~30~~³⁴, wherein the controller is constructed and arranged to apply a scale factor to the dispensing velocity profile to obtain the calibration velocity profile.

³⁶
~~32.~~ (New) The apparatus of claim ~~31~~³⁵, wherein the calibration velocity profile is the same as the dispensing velocity profile.